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(54) Title: COMPUTER-IMPLEMENTED DYNAMIC FINANCIAL MENTOR

(57) Abstract: The personal financial mentor (PFM) is a computer-implemented financial mentoring method and apparatus designed to generate and display advice in response to user-supplied financial profile information. Financial profile information is information pertaining to personal financial objectives and characteristics unique to each user of the PFM. External information related to the user's personal financial objectives and characteristics is also defined by the PFM as financial profile information. The PFM stores the financial profile information in a knowledge base database in a plurality of sub-component databases. A knowledge base analytic engine and a dynamic interview generator control the mentoring process through a plurality of PFM interfaces. The PFM also includes an online processor for completing financial product/service applications and transmitting the applications to financial product/service providers. The PFM communicates to the user through a network connection, wherein the user may be communicating through a variety of user interface devices, such as a personal computer, a landline telephone, a wireless communication device, a kiosk, a workstation, or any other similar communication device. Although the user is allowed to terminate an interview session at any time, PFM provides continuous service to the user through the use of the knowledge base and the analytic engine. By providing the PFM with updated financial profile information, such as life events, the user is greatly advantaged by dynamic characteristics of the PFM in providing financial mentoring through continuous iterative service.

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## COMPUTER-IMPLEMENTED DYNAMIC FINANCIAL MENTOR

### Technical Field

5 The invention relates generally to personalized financial mentoring services. More particularly, the invention relates to dynamically advising a user as to certain financial strategies based upon the user's personal objectives and capabilities, in light of various outside factors.

### Background of the Invention

10 To date, static financial advice systems provide advice in response to a personal financial profile. Such objective guidance may be based upon a pre-generated response designed to classify certain personal financial and non-financial aspects into categories.

15 In contrast, financial counselors provide dynamic counseling based upon personal criteria supplied to them by their clients. Throughout each interview with the client, the counselor dynamically alters the interview based upon the input he/she receives from the client. The counseling is dynamic in the sense that the counselor regularly molds his/her advice to the personal objectives and financial capabilities of his/her client. Because of various personal and outside factors, advice  
20 that may be suited for one client may not be suited for another client, even though the clients may have the same financial capabilities.

Currently, computer-implemented financial services are static, or objectively, based services. For instance, U.S. patent 5,870,721, issued February 9, 1999, relates to a method and apparatus for closed loop (without human  
25 intervention), automatic processing of a loan. After information is received from the applicant, a loan approval determination is made based on a "score" given by the computer. Even though the "score" takes into account personal aspects, such as the applicant's ability and willingness to pay off the loan, the final determination is based upon an objectively based, pre-generated response dictated by the "score" of  
30 the applicant. Therefore, any applicants with the same "score" will receive identical results. Simply stated, if a service provides a static financial service, there is no change in advice given by the mentor based upon personal situations.

### Summary of the Invention

35 In accordance with the present invention, the above and other problems are solved by the personal financial mentor (hereinafter "PFM"). Dynamic financial mentoring refers to subjective financial guidance based upon an array of various factors, such as personal objectives, an outside financial

environment, and the unique financial considerations of each person. The focus is on mentoring that takes into consideration certain unique aspects of a person and subjectively provides guidance based upon those particular aspects. Dynamic interaction between the mentor and the client present the client with the greatest array of financial counseling in order to maximize the mentoring process.

The PFM is a closed loop financial mentoring service designed to render guidance in response to a dynamic interview conducted with the user of the PFM. The dynamic interview responses provide personal input to the PFM as to the user's financial objectives and goals. The PFM also allows the user to apply for a particular financial product. Although the PFM does not guarantee that such an application will be approved, it advises the user on a particular financial product or service that best suits his\her personal needs and criteria supplied by the product/service provider. These financial products may be related to services such as, but not limited to, home equity loans, car loans, student loans, credit card loans, and mortgages.

The PFM serves as a perpetual mentor in that it dynamically interacts with a user in a real time setting to mentor the user as he\she encounters various life events over an indefinite time period. In essence, the PFM, which exhibits a "customer for life" approach with the user, continues to learn about a particular user by mentoring that user through his\her various life events and determining how these events affect their financial ability to acquire certain financial services. The PFM also offers the user a system that identifies, or flags, those life events that are significant to the user's financial objectives and goals.

In mentoring the user, the PFM not only takes into account life events that are personal to the user, but also various other circumstances. The PFM operatively learns by an iterative process of conducting analytical analysis on the input by the user, external data from the environment, and derived data by the system; determining the impact of the preceding data relative to the user's personal objectives and past life events history; and, using such knowledge to personalize the mentoring process. By personalizing the mentoring process, the PFM is able to suggest the best products available to the user from the services that the user desires.

The invention may be implemented as a computer process, a computing system or as an article of manufacture such as a computer program product or computer readable media. The computer program product may be a computer storage media readable by a computer system and encoding a computer program of instructions for executing a computer process. The computer program product may also be a propagated signal on a carrier readable by a computing system and encoding a computer program of instructions for executing a computer process.

The great utility of the invention is that personal mentoring is conducted through a user interface device of a computer network. The client is provided personal advice through a dynamically conducted interview specifically designed for that client, without having to visit the office of a financial counselor.

5        These and various other features as well as advantages, which characterize the present invention, will be apparent from a reading of the following detailed description and a review of the associated drawings.

### **Brief Description of the Drawings**

10        FIG. 1 shows a conceptual diagram of the present invention shown connected to a variety of user interface devices in accordance with a preferred embodiment of the invention.

FIG. 2 shows an operational diagram of a preferred embodiment of the Personal Financial Mentor (PFM) of FIG. 1.

15        FIG. 3 shows an operational diagram of the dynamic interview generator of FIG. 2.

FIG. 4 shows an operational diagram of the knowledge base analytic engine of FIG. 2.

20        FIG. 5 illustrates operations of signing on to the PFM as a user, in accordance with a preferred embodiment of the present invention.

FIG. 6 shows a preferred embodiment of a user's personalized web page displayed through a user interface device of FIG. 1.

25        FIG. 7 illustrates operations of a preferred embodiment of the PFM to dynamically interact with a user in order to determine parameters needed for mentoring.

FIG. 8 illustrates operations of the PFM as it conducts an interview in accordance with a preferred embodiment of the present invention.

30        FIG. 9 illustrates operations of the PFM as it traverses the user through the application process in accordance with a preferred embodiment of the present invention.

FIG. 10 illustrates alternative operations to the operations illustrated in FIG. 9 that the PFM applies when a user requests advice on how to use his/her life event.

35        FIG. 11 illustrates operations inherent in the use of the PFM to obtain a mentoring interview related to a financial transaction, in accordance with one embodiment of the present invention.

FIG. 12 illustrates operations inherent in the user of the PFM to shop in a closed-loop environment.

### Detailed Description of the Embodiments of the Invention

Referring to FIG. 1, a conceptual illustration of a preferred embodiment of the present invention is shown. The personal financial mentor (PFM) 100 is connected to a host server 101. The PFM 100 is shown accessible through a variety of client stations having a user interface device, such as a personal computer 103, a land-line telephone device 104, and a wireless communication device 105, such as a personal data assistant. The PFM 100 is preferably simultaneously accessible to more than one user through client stations 103, 104, 105, or any other similar client stations or user interface devices. No matter which client station device is employed, the user may enter information in any conventional manner, such as, but not limited to, voice recognition technology, keyboard, computer mouse, touch screen, number pad, or any similar user input technology device. Firewall 106 provides the necessary security for communications between the PFM 100 and the user interface device.

The PFM 100 is accessible by the personal computer 103 through the Internet 107. The PFM 100 is accessible by the landline telephone device 104 through a public telephone switch 108 and telephone/wireless device server 109. The PFM 100 is accessible by the wireless communication device 105 through a radio tower 110, which is in communication with the telephone/wireless device server 109.

Referring now to FIG. 2, a preferred embodiment of the PFM 100 is shown. The PFM 100 interacts with a user through a network connection 150 to the user interface device. When the user interface device sends a request to initiate the mentoring system, the network connection 150 communicates the request to the PFM 100. More particularly, the PFM 100 communicates with the user interface device through a registration/customization interface 152, a life event trigger interface 154, a financial products interface 155, an interview interface 156, an application interface 168, and a personal communication interface 186. In a preferred embodiment, information provided to the PFM 100 as well as data generated by the PFM 100, is stored in a knowledge base 162 as financial profile information, which is user data specific to the user. Further, the PFM 100 generates, monitors, and stores financial profile information related to each particular user in continuous fashion, regardless of whether the user is signed on the PFM 100. Additionally, the user does not have to be signed on to the PFM 100 in order for the PFM 100 to provide the user with financial services, which are continuously transmitted the a user interface device through the network connection 150.

The registration/customization interface 152 transmits user information to a user information database 161 located within the knowledge base

162. The user information database 161 includes an objectives database 160, an interview responses database 166, an application responses database 180, an external data database 188, and a target market data database 190. The life event trigger interface 154 also provides user information to the user information database 161.

5           The interview interface 156 conducts the interview of the user. The interview interface 156 is operated by a dynamic interview generator 158. The dynamic interview generator 158 is the PFM 100 component that orchestrates the user's interview process. In a preferred embodiment, the dynamic interview generator 158 uses the knowledge base 162 to dynamically generate Internet web  
10   pages 430 that contain personalized interview questions, interprets the user's responses, and saves the interview results in the interview responses database 166.

          The knowledge base 162 contains the database components that house the financial profile data, which may be stored as records. The financial profile information is used to create the "personalized" interview by the dynamic  
15   interview generator 158. These components include: a master templates database 164, a needs analysis parameters database 232, the user's personal objectives database 160, a product information database 178, the external data database 188, and the target market data database 190. The dynamic interview generator 158 preferably generates the interview based on information stored in the knowledge  
20   base 162. In particular, information stored in the user information database 161 provides the dynamic interview generator 158 with information "personal" to the user.

          Referring to FIG. 3, an embodiment of the dynamic interview generator 158 working with the interview interface and knowledge base 162 of the  
25   PFM 100 is illustrated. An interview preferably includes a sequence of customized web pages 430 designed to collect financial information from the user in an unobtrusive manner. The HTML templates database 165 provides the dynamic interview generator 158 with the relevant master template 432 from the master templates database 164. This master template 432 contains a library of textual 434  
30   and graphical 436 subcomponents, preferably including a description of the program controls, the positioning references, and the physical appearance characteristics of the subcomponents. The dynamic interview generator 158 preferably assembles the textual 434 and graphical 436 subcomponents from the master template 432 into web pages 430. Prior to displaying the web pages 430, the dynamic interview  
35   generator 158 customizes the pages 430 with the "personalized" data from the knowledge base 162 databases listed above. The web pages 430 are displayed in sequence by the interview interface 156.

Referring back to FIG. 2, the product information database 178 stores information related to various financial service/products. In a preferred embodiment, the product information database 178 includes a credit cards database 192, a loans database 194, a home manager database 196, a mortgage brokers database 198, and a student loans database 200. In a preferred embodiment, information pertaining to certain financial products or services is supplied to the product information database 178 from the external content integrator 184, which, takes input from sources including, but not limited to, a credit bureau source 202, a bank source 204, a real estate source 206, and a government source 208.

In a preferred embodiment, the knowledge base 162 is maintained by a knowledge based analytic engine 187. The knowledge based analytic engine 187 serves as the conduit between a knowledge base 162 and the online processor 174, which is used to process financial service/products applications, and the knowledge base 162 and the dynamic interview generator 158. The knowledge base analytic engine 187 is a collection of analytic functions 228 and templates 230 for personalizing the interaction between the PFM 100 and a user. The knowledge base analytic engine 187 uses the knowledge base 162 to dynamically assess the financial impact of life events and provide personalized options on how to handle these events.

The PFM 100 optimizes the knowledge base 162 through the knowledge base analytic engine 187 by learning about a user through an iterative process of conducting analytical analysis on the financial profile information, which includes inputted data and life events history stored in the user information database 161, the external data stored in the external data database 188 and target market data 190 databases, derived data by the knowledge base analytic engine 187 stored in the knowledge base 162, and parameters stored in the needs analysis parameters database 232. Such analytical analysis is used to determine the impact of that data relative to the user's personal objectives. The knowledge base 162 is used by other PFM 100 components, such as the dynamic interview generator 158 and an application generator 172, to deliver "personalized" financial mentoring services to a user. Over time the PFM 100 will learn more about the user and be able to anticipate the type of financial services/products that best support their personal life objectives.

The knowledge base analytic engine 187 contains analytic functions 228 to perform data extraction and calculations on information stored in the knowledge base 162. In a preferred embodiment, each function 228 generates one or more metrics 450 (FIG. 4), which are derived values that result from the analytical processing of the knowledge base 162. The metrics 450 are preferably maintained

dynamically and recalculated on a real time basis once the user initiates a transaction. The metrics 450 may also be generated and stored on a continuous basis, even without the user being signed on.

5 The knowledge base analytic engine also contains analytic templates 230 to define one or more conditions which, when met, trigger an automated response to the dynamic interview generator 158 and the workflow manager 182. In this context, the conditions might include comparing database values or metrics 450 against constant values or against other database metrics 450 or values. The analytic templates 230 create event triggers 452, which are used by the dynamic interview  
10 generator 187 to personalize the generation of the dynamic web pages 430. The pages 430 are organized in a decision matrix and used to conduct the user interview, which is implemented through the interview interface 156.

Referring to FIG. 4, an embodiment of the knowledge base analytic engine 187 of the PFM 100 is illustrated. The knowledge base analytic engine 187  
15 compares values in the knowledge base 162 and/or metric 450 values, which were calculated by analytic functions 228 of the engine 187. Once conditions specified by the analytic template 230 are met, responses, containing event triggers 452, are communicated to the dynamic interview generator 158 and the workflow manager 182.

20 The responses define tasks for the dynamic interview generator 158 and the workflow manager 182 in accordance with preferred embodiments of the invention. For example, an analytic template 230 may be written to determine when to recommend a particular loan product stored in the knowledge base 162. In this example, if the maximum interest rate for any debt instrument owned by a customer  
25 (a metric 450 calculated by an analytic function 228) exceeds the minimum interest rate charged by the loan product (another metric 450), the dynamic interview generator 158 would insert graphics 436 and text 434 into the dynamic web page 430 of the interview process recommending the loan product. For another example, an analytic template 230 could be written to pro-actively recommend an expenditure  
30 to a customer. In this example, if the monthly cost of leasing a specific automobile (a metric 450 calculated from the terms entered by the user and values in the product information database 178), is less than the monthly amount saved in a previously initiated transaction, the knowledge base analytic engine 187 would create a workflow task, resulting in an e-mail (or other similar communication) message  
35 being sent to the customer through the personal communication interface 186. The details of the message are a part of the analytic template 230.

Referring back to FIG. 2, the online processor 174 is operated by a workflow manager 182 that manages a workflow process pertaining to each product



or service provided by the PFM 100. The workflow process is best described as the operation of the workflow manager 182 in applying for a particular service/product. Included in the workflow process is the selection and physical completion of the particular application, which is implemented in conjunction with the operation of the application interface 168. Preferably, the workflow process includes orchestrating the collection of data from the knowledge base 162 in order to complete an application. The workflow process manages a plurality of steps, including collection of financial profile information, such that the steps are executed and sequentially completed, thus resulting in the completed application.

The workflow manager 182 is connected to an application generator 172 and a personal communication generator 170. The application generator 172 maintains and fills in a specific service/product application, which is communicated to the user interface device through an application interface 168. As interview responses are supplied to the application interface 168 from the user, the application generator 172 fills in the fields of the application and communicates the information to the interview responses database 166. The application generator 172 is provided the service/product application by the workflow manager 182. In a preferred embodiment, the workflow manager 182 may derive the application from a credit application source 210, a loan application source 212, a home mortgage source 214, a mortgage broker source 216, or a student loan source 218. Each of the following sources are created and updated by the external transaction integrator 185. In a preferred embodiment, the external transaction integrator 185 manages automated communication between the PFM 100 and various service/product providers including, but not limited to, a bank 220, a utility company 222, a mortgage broker 224, and a credit card company 226.

If the user requests to apply for the service/product through the application interface 168, the application derived by the workflow manager 182 and completed by the application generator 172 is sent to the service/product provider, such as 220, 222, 224, and 226, through the external transaction integrator 185. A response, preferably an acceptance or rejection, is communicated from the service/product provider back through the external transaction integrator 185 to the workflow manager 182.

The workflow manager 182 retrieves the workflow process corresponding to the application response received and specifies an appropriate response to the user based upon information from the user information database 161 and the product information database 178. For example, in situations where the external transaction integrator 185 provides a rejection, the workflow manager 182 may use the rejection, the user information, and the product information to specify a

personalized response that advises the user to try a different service/product provider. The response specified by the workflow manager 182 is communicated to the personal communication generator 170, which generates a formal response for the user and communicates the formal response to the user through the personal communication interface 186.

A computing device, such as PFM 100, typically includes at least some form of computer-readable media. Computer readable media can be any available media that can be accessed by the PFM 100. By way of example, and not limitation, computer-readable media might comprise computer storage media and communication media.

Computer storage media includes volatile and nonvolatile, removable and non-removable media implemented in any method or technology for storage of information such as computer readable instructions, data structures, program modules or other data. Computer storage media includes, but is not limited to, RAM, ROM, EPROM, flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other medium that can be used to store the desired information and that can be accessed by the PFM 100.

Communication media typically embodies computer-readable instructions, data structures, program modules or other data in a modulated data signal such as a carrier wave or other transport mechanism and includes any information delivery media. The term "modulated data signal" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, RF, infrared, and other wireless media. Combinations of any of the above should also be included within the scope of computer-readable media. Computer-readable media may also be referred to as computer program product.

The logical operations of the various embodiments of the present invention are implemented (1) as a sequence of computer implemented acts or program modules running on a computing system and/or (2) as interconnected machine logic circuits or circuit modules within the computing system. The implementation is a matter of choice dependent on the performance requirements of the computing system implementing the invention. Accordingly, the logical operations making up the embodiments of the present invention described herein are referred to variously as operations, structural devices, acts or modules. It will be

recognized by one skilled in the art that these operations, structural devices, acts and modules may be implemented in software, in firmware, in special purpose digital logic, and any combination thereof without deviating from the spirit and scope of the present invention as recited within the claims attached hereto.

5           The mentoring process begins once the user interface device contacts and connects with the registration/communication interface 152 through the network connection 150. This connection may be through the Internet 107, a telephone 104, a wireless communication device 105, or any other conventional product for connecting to a computer network. At the registration/communication interface 152,  
10   the user will sign on as a member. FIG. 5 illustrates operations performed when a user signs on to the PFM 100 through the Internet, in accordance with one preferred embodiment of the present invention.

Referring to FIG. 5, operation 300 connects the user interface device to the registration/communication interface 152 through the network connection 150.  
15   Query operation 302 determines whether the user has previously registered with the PFM 100. If so, then user display operation 304 displays the user's customized web page 320 (FIG. 6) for the PFM 100. If user has not previously registered, then home display operation 306 displays the PFM 100 home page. Log operation 308 sends a request to the PFM 100 that the user has selected to register as a member. Verify  
20   operation 310 sends a request that user has been authenticated by sending user information to the PFM 100, thus signing in as a member. In a preferred embodiment, the first user information sent to the PFM 100 is identifying information used in first accessing the user's customized web page 320. Once authenticated by verify operation 310, the user's customized PFM web page 320  
25   appears.

Request operation 312 determines whether the user has requested an interview from the PFM 100. Such a request is triggered if the user activates the "select a life event" input 322 (FIG. 6) on the personalized web page. Once selected, operation 340 activates the life event trigger interface 154, and operation flow passes  
30   to FIG. 7. If the user has not requested an interview, request operation 314 determines whether the user has requested information pertaining to a financial product or service. Such a request is triggered if the user activates the "product/service information" input 328 (FIG. 6) on the personalized web page. Once selected, initiation operation 317 activates the financial products interface 155.  
35   Product detail operation 318 requests, through the financial products interface, specific details concerning financial services/products that the user is inquiring about, provided, however, that such information is not already stored in the knowledge base 162. Once product detail operation 318 has completed, operation

flow passes to custom web page module 415 (FIG. 10). Custom web page module 415 generates custom web pages 430 based upon the responses given by the user in product detail operation 318 and other financial profile information stored in the knowledge base 162.

5 If the user has neither requested an interview or information pertaining to a product/service, the user may request a counseling session, such as guidance on how to attain a particular financial objective. Counseling session operation 316 determines whether the user has requested such a service. If the user has requested financial counseling, operation flow passes to counsel web page operation 410 (FIG. 10). Counsel web page operation 410 requests the knowledge base analytic engine 187 to provide the user with a customized dynamic web page to initiate the session.

15 The registration/customization interface 152 displays the user's personalized PFM web page 320 through the network connection 150 to the user interface device. Referring to FIG. 6, a preferred embodiment of a user's personalized, or customized, web page 320 is shown. The personalized web page 320 preferably includes a "select a life event" input 322 coupled with a current life event choices input 324, an alert monitor 326, a product/service information input 328, and a counseling session input 330. The alert monitor 326 preferably shows the status of any incomplete applications, notifies the user of any unanswered alerts, and contains an archive of completed applications and prior alerts.

20 The current life event choices input 324 of the personalized PFM web page 320 is coupled to the life event trigger interface 154. Once the user selects a life event from the current life event choices input 322, the life event trigger interface 154 is initiated. Once initiated, the life event trigger interface 154 will determine if the PFM 100 has enough information from the user to initiate the interview. The product/service information input 328 is coupled to the financial products interface 155. If the user selects an inquiry into a financial product or service, the financial products interface 155 triggers an information and mentoring session directed to that inquiry. Initially, the financial products interface relays requests from the PFM 100 for specific details pertaining to a particular product/service the user is interested in. The counseling session input 330 is coupled to the life event trigger interface 154. If the user requests a financial counseling session, the life event trigger interface is activated to initiate the session.

35 Fig. 7 shows a preferred embodiment of the operational flow to determine whether the PFM 100 has sufficient information from the user when there is a life event to trigger. Event operation 340 initiates the life event trigger interface 154 once the user selects a life event from the current life event choices input 324.

Test operation 342 determines whether the user, either during this session or in a previous session, has provided the PFM 100 with enough information to proceed to an interview. If test operation 342 determines sufficient information has been provided, then start interview module 344 initiates the interview interface 156. If  
5 test operation 342 determines that the PFM 100 has not received sufficient information, then prompt operation 346 requests that the life event trigger interface 154 prompts the user with the necessary questions to derive the necessary information.

Once the life event trigger interface 154 determines that the user has  
10 supplied sufficient information to conduct an interview, the interview interface 156 is initiated. As mentioned earlier in the Detailed Description, the dynamic interview generator 158 derives the appropriate questions, graphics, and animations that will be used by the interview interface 156 to walk the user through the interview. FIG. 8 illustrates the operation of the PFM 100 as it conducts an interview in accordance  
15 with a preferred embodiment of the present invention.

Referring to FIG. 8, convert operation 360 requests that the dynamic interview generator 158 translate the life event to a specific life event category. Personal objectives test operation 362 determines whether the user has provided personal objectives to the PFM 100. If the user has previously provided any such  
20 objectives, they would be found in the objectives database 160 in the knowledge base 167. If the user has not provided any personal objectives, objectives request operation 364 prompts the user with his/her customized personal web page 320 in order to request that the user supply such objectives. Once the user provides the personal objectives to the objective database, translate operation 366 causes the  
25 dynamic interview generator 158 to translate the personal objective to a specific objective category. Template operation 368 requests the dynamic interview generator 158 to retrieve the appropriate master template from the master templates database 164 of the knowledge base 162. Web page module 370 causes the dynamic interview generator 158 to generate custom dynamic web pages 430 for each page of  
30 the interview. The web page 430 is defined by characteristics imported by operation 371, such as, but not limited to, text fragments, calculators, graphics, icons, etc. Interface operation 372 requests the interview interface 156 to display each interview web page 430 and receive and store each user response of the interview in the interview responses database 166 of the knowledge base 167. Interview test  
35 operation 374 determines whether the user interview is complete. If the interview is not complete, then interface operations 370 and 372 are repeated until the interview is completed. Once the interview is complete, generate operation 375 compares the financial profile information stored in the knowledge base 162 to at least one

financial condition, as detailed in FIG. 4. In addition, generate operation 375 generates product/service recommendations for particular product/service providers. Display operation 377 displays the recommendations generated in generate operation 375. Query operation 376 determines whether the user has requested to apply for a particular service/product (FIG. 9) or requested financial counseling (FIG. 10). If there has not been such a request, then operation 378 returns the user to his/her customized web page 320. If the user has requested to apply for a particular product/service, as determined by inquiry operation 379, then the application interface is activated by start application operation 380, and operation flow passes to FIG. 9. If the user has not requested to apply for a particular product/service, then inquiry operation 379 determines that the user has requested a financial counseling session. Such a determination enables the activation of the financial products interface by start financial products operation 317, and operation flow passes to FIG. 10.

Referring to FIG. 9, an application interview module is shown illustrating the operation of the PFM 100 as it interviews the user through the application process in accordance with a preferred embodiment of the present invention is shown. Once start application operation 380 initiates the application interface 168, previous application test module, or operation 382, detects whether the user has previously applied for that particular service/product. If the user had applied for the service/product before, then update module 384 updates the user regarding the status of the application via the personal communication interface 186. Operation 384 also suggests an alternative or supplemental service/product than the one previously applied for. If, as determined in previous application test operation 382, the user had not previously applied for the same service/product, then workflow initiate operation 390 initiates a workflow process for the user and the service/product.

Alternatively, detect operation 386 determines whether the user has accepted the alternative service/product. If there has been acceptance, then workflow initiate operation 390 begins. If no such acceptance, then return operation 388 returns the user to either the interview or the customized web page 320. Security operation 392 switches the connection between the user and the PFM 100 to a secure communication. Preprocess module 394 requests the application generator 172 of the online processor 174 to retrieve an application template from the applications template database 176 and information on the service/product from the product information database 178. Preprocess module 394 also pre-populates fields of the application from the financial profile information stored in the knowledge base 162. Application display operation 396 displays the application,

one page at a time, until the user has provided the required information. Store operation 398 stores the user's application responses in the application responses database 180 of the knowledge base 162. Workflow operation 400 requests the workflow manager 182 to display the completed applications contained in the knowledge base 162. Operation 400 also requests the workflow manager 182 to submit user data to the online processor 174. The online processor 174 reformats user responses to the specific format requested by the preferred external provider, as communicated through the external transaction integrator 185. Transmit operation 402 requests the external transaction integrator 185 to electronically submit the application to the preferred external provider, as recommended by the workflow manager 182 in operation 400.

After an indefinite period of time, external transaction integrator operation 404 is triggered when the external transaction integrator 185 receives either acceptance or rejection of the application by the external provider. Retrieve operation 406 requests the workflow manager 182 to retrieve the open workflow process for the user and to specify an appropriate personal response to the user, which is based on information stored in the user information database 161 and the product information database 178 of the knowledge base 162. Send operation 408 requests that the personal communication generator 170 generate a personal response based upon information provided by the workflow manager 182. Send operation 408 also requests that the personal communication generator 170 send the formal response to the user via the personal communication interface 186. The personal communication interface 186 may transmit the formal response through any conventional communication means, including, but not limited to, telephone, facsimile, email, or U.S. Postal Service.

The PFM 100 not only can be used to process an application, but it can also be used to help a user determine how to use his/her life event in conjunction with various financial services. Further, the PFM 100 can be used in assisting a user in attaining a particular financial objective. In either case, the application interface 168, the interview interface 156, the life event trigger interface 154, the external content integrator 184, and the financial products interface 155 will gather and store information to be used by the knowledge base analytic engine 187. FIG. 10 is a counseling interview module illustrating, in accordance with a preferred embodiment, the operations used in providing the user with such recommendations. In particular, the flow diagram in FIG. 10 is preferably used as an alternative to the flow diagram of FIG. 9 when the user requests either mentoring on how to use his/her life event or counseling on attaining a personal financial objective, or when the user requests information on certain financial products or services.

Referring to FIG. 10, display operation 410 requests the knowledge base analytic engine 187 to provide the user with a customized dynamic counsel web page, taking into account financial profile information from the user information database 161 and the product information database 178. In several preferred  
5 embodiments, the counsel web page may be provided to the user through either the life event trigger interface 154 or the application interface 168. Either the application generator 172 or the dynamic interview generator 158 may control the operation of the counsel web page. Event detail module, or operation 412, requests specific details concerning user information, or novel or updated life events from the  
10 user. For example, if the life event is an increase in salary, operation 412 may request the amount of such an increase from the user. If the user has not experienced a life event, but has simply requested financial counseling, event detail operation 412 requests what services the user desires counseling in. Such counseling may pertain to a variety of services, including, but not limited to, changing user  
15 information, changing the user's personal objectives, or changing the user's priorities, as stored in the knowledge base 162. The responses by the user are accepted and are preferably stored in the application responses database 180 or the interview responses database 166.

Depending upon the session, custom web page module 415 causes the  
20 dynamic interview generator 158 to generate custom dynamic web pages 430 for each page of the interview. The web page 430 is defined by characteristics imported by operation 421, such as, but not limited to, text fragments, calculators, graphics, icons, etc. Interface operation 416 requests the current interface to display each interview web page 430 and receive and store each user response of the interview in  
25 the interview responses database 166 of the knowledge base 167. Session test operation 417 determines whether the interview has completed. If the interview has not completed, then interface operations 415 and 416 are repeated until the interview is completed. Once the interview is complete, recommendation module 418 is initiated.

30 Recommendation module 418 works with the application generator 172, the knowledge base analytic engine 187, and the dynamic interview generator 158 to generate a personalized recommendation based upon the information provided by operations 412 and 318, and the user's financial profile information stored in the knowledge base 162. Using the previous example as an illustration, if a  
35 user wanted to use his/her pay increase to pay off a credit card, recommendation module 416 may weigh the amount of salary increase against the user's personal financial objectives. Recommendation display module 418 displays a dynamic web page containing the personal recommendation generated by the application generator



172. The recommendation may be advice to apply for a financial product/service, financial advice directed to the user's financial objectives, or information pertaining to a particular financial product/service inquired about by the user. Using the previous example as an illustration, module 418 may display a payoff tool, which  
5 outputs the number of months till paying off the credit card based upon various adjustable factors, such as monthly payments. Alternatives module, or operation 420, generates and displays alternative recommendations, such as alternative products or services, which may be more suitable for the user. Using the previous example as an illustration, alternatives operation 420 may display a credit card with  
10 a lower interest rate, a credit card with a low short term transferred balances rate, or a product consolidating all credit card debt through a home equity loan. Such alternatives, which are stored in the product information database 178, are provided to the PFM 100 through the external content integrator 184. Response test operation 422 determines whether the user chooses any of the alternatives displayed by  
15 alternatives operation 420. If the user selects any of the alternatives, then application interface 168 is provided to the user and the user applies for the product in accordance with the operational flow diagram of FIG. 9. If the user does not select any of the alternatives displayed in alternatives operation 420, operation 424 returns the user to his/her customized web page 320. Finally, in target operation  
20 426, the target market data database 190 is updated with the responses given by the user, provided that the user had given consent to such responses being provided to the database 190. Further, with reference to FIG. 10, the user may terminate the session during any operation. For example, if the user were only interested in financial advice in attaining a particular financial objective, the user may terminate  
25 the session following operation 418.

Fig. 11 illustrates a method of obtaining a mentoring interview related to a financial transaction comprising a plurality of steps in accordance with one embodiment of the invention. Menu operation 450 presents a user with a menu displaying a plurality of financial transaction options. For example, the menu may  
30 include "apply for a mortgage," "apply for a personal loan," "apply for a credit or debit card," "apply for utilities services," etc. The menu is displayed through the financial products interface 155. After presenting the menu to a user, operation 452 transmits the financial transaction request input to the PFM 100. The PFM 100 receives the user information through receiving operation 454 and determines, in  
35 inquiry operation 456, whether additional user information is required from the user. If the system determines that additional user information is required, request input operation 458 specifies the user information required and requests the user to input such user information. Receiving operation 454 receives the user information input

by the user. The user information is stored in the knowledge base 162 of the PFM 100 as financial profile information.

If the system determines that additional user information is not required, access operation 460 accesses the knowledge base 162 to obtain various financial profile information related to the financial transaction requested. After obtaining the information gathered in access operation 460, process operation 462 activates the online processor 174, which processes the information in accordance with the financial transaction requested. After processing the information, decision operation 464 renders a decision regarding the financial transaction requested. Display operation 466 presents the decision to the user through the application interface 168.

According to another embodiment of the invention, a system and method for identifying specific fields of a user interface device based on selection criteria provided by a user are provided. The PFM 100 includes a central database, preferably referred to as the knowledge base 162, a knowledge base analytic engine 187, interface terminals 152, 154, 155, 156, 168, and 186, product providers 220, 222, 224, and 226, a network connection 150 to various user interface devices operating on various client stations, such as 103, 104, and 105, and an external data database 188. The PFM 100 is preferably connected to marketing institutions connected over a network by an external transaction integrator 185. Users preferably access the PFM 100 using client stations 103, 104, and 105. Using client stations 103, 104, and 105 users may request information regarding various products offered by multiple providers, such as 220, 222, 224, and 226. Information requests may be received by the knowledge base 162. The knowledge base analytic engine 187 builds and presents an interactive display that is customized, or personalized, to the user. The interactive display is personalized through financial profile information provided by the user and received from the external content integrator 184.

After obtaining information from the user and the external content integrator 184, this information, currently stored as financial profile information, is communicated to product providers, such as 220, 222, 224, and 226, in accordance with a preferred embodiment of the present invention. Based on this information, product providers, such as 220, 222, 224, and 226, may extract specific user information. The models may then be used to develop target-marketed groups and identify users' propensity to purchase additional products. This information is stored in the knowledge base 162 in a target market data database 190. This target market information enables product providers, such as 220, 222, 224, and 226, to

focus on users most likely to purchase their products and attract users by developing sales leads, marketing campaigns, etc., directed to particular users. --

In another preferred embodiment, the PFM 100 may be used to distribute sales information from product providers, such as 220, 222, 224, and 226, to broker networks, telesales, or other marketing institutions, such as 202, 204, 206, and 208. Users may access the PFM 100 using terminals 152, 154, 156, 168, and 186 and conduct transactions (e.g., order products, cancel an order, etc.) and provide profiles regarding product preferences and dislikes. The knowledge base 162 may also be used to track sales and service performances by monitoring user transactions. User transactions may also be monitored for a predetermined time period, marketing campaign, etc.

In accordance with another embodiment of the invention, a system and method for conducting financial services is provided. The system preferably operates on a network environment as shown in Fig. 1 and is accessed using a conventional web browser loaded on a computer. The system comprises distributing "keys" to a user base 103. The keys may be a pointer to a uniform resource locator (URL) stored on, for example, a CD-ROM or a floppy diskette. The keys may "point" to specific links on the Internet. A user may use the key to open the URL.

After opening the URL, a graphical user interface device 320 is provided by product detail operation 318 that enables users to input information regarding the type of financial service desired. Interface operations 415 and 416 may present the user with a plurality of questions pertaining to various financial services. Depending upon the information input by the user in response to the questions, the PFM 100 may enable the user to direct the PFM 100 to the user's money management system, which is stored in the knowledge base 162. This reduces the conventional requirements of conducting an interview with a broker. Operations 415 and 416 may also be displayed as a full motion video application with questions that may be answered by completing appropriate data fields.

In another embodiment, the information input by the user may be communicated to, for example, a knowledge base analytic engine 187 operating on a central computer that processes the information and obtains information related to the financial service requested from one or more databases in the knowledge base 162. The online processor 174 transmits, through a personal communication interface 186, a confirmation of the financial service requested (e.g., via e-mail) to the user in real-time. The online processor 174 may also notify an agent or broker of the financial service requested. The financial services requested may be communicated to a financial services provider, such as 220, 222, 224, and 226, electronically or by any other known manner.

In another embodiment, the PFM 100 may also include a cataloging module internal to the workflow manager 182. The cataloging module may enable the PFM 100 to automatically distribute and update product information. For example, cataloging module may update product information based on one or more criteria and distribute that information to lenders or other financial institutions.

Fig. 2 can also be viewed as illustrating a cataloging module within a PFM 100 in accordance with another embodiment of the invention. The cataloging module preferably includes presenting module 150, information gathering modules 152, 154, 155, 156, 168, and 186, information-communicating modules 152, 154, 155, 156, 168, and 186, and processing module 174. Presenting module 150 may be used to present a user with various options, requests or other output. For example, presenting module 150 may be used to present the user with a main menu enabling the user to select one of a plurality of options regarding a loan such as a status inquiry, amount, balance, payment information, etc. Information gathering modules 152, 154, 155, 156, 168, and 186 may be used to receive financial profile information input by the user. Other information may be obtained from one or more databases, such as 202, 204, 206, and 208, by means of external content integrator 184.

Information communicating modules 152, 154, 155, 156, 168, and 186 may be used to communicate information to and from PFM 100. Processing module 174 may be used to perform various functions relating to completing a financial transaction request. For example, processing module 174 may be used to apply various algorithms to the information received and determine whether a user meets certain thresholds, or financial conditions (such as 228), for various financial transactions. For example, if a user is applying for a mortgage, processing module 174 may determine whether the user's income meets a certain level or compute a score based on a part or all of the financial profile information obtained and stored in the knowledge base 162. Processing module 174 may also be used to render a decision for the request based on one or more of the thresholds met and process a print request, transmitted through the external transaction integrator 185, for any documents relating to the transaction. The print request may also include an electronic certification seal. For example, processing module 174 may cause a unique seal to be printed on a document. The seal may serve to notify financial institutions that the user has completed a transaction using the system.

According to another embodiment of the invention, a system and method for on-line shopping is provided. The on-line shopping system and method may be operated on the PFM 100 as illustrated in Fig. 1. One embodiment of an on-line shopping system 100 is illustrated in Fig. 6. The PFM 100 may comprise a

dynamic page generator 158, configurable order processing module 174, and database module 162. The PFM 100 may also be provided with an interface to existing databases, such as 202, 204, 206, and 208. In this manner, users may also obtain business information relating to the merchants from whom they may be ordering merchandise.

According to another embodiment of the invention, users may order and purchase merchandise on-line using a standard web browser operating on a personal computer 103. Other methods of on-line shopping may also be used. For example, a user may have access to a server from a phone 104, a PDA 105, other device. Additionally, users may purchase merchandise from local merchants. It is to be understood, however, that users may also purchase merchandise from distant merchants.

In another embodiment, the PFM 100 includes an architecture that provides merchants with enhanced flexibility to adapt the PFM 100 to particular business practices, promotions, databases, etc. For example, the dynamic page generator 158 enables merchants to modify databases within the knowledge base 162 and page displays 430 without requiring reconfiguration of current systems. The knowledge base 162 enables data to be retrieved from various types of databases regardless of database format. The workflow manager 182 within the configurable order processing module, such as the online processor 174, comprises multiple configurable stages to process a user's order. A merchant may customize a web site according to various criteria. For example, dynamic page generator 158 may generate web pages 430 based on a user's ordering history. The pages 430 presented to the user may be related to the type of merchandise most purchased by that user. The pages 430 may also present promotions on merchandise relating to merchandise purchased by the user. For example, if a user has purchased gardening tools, the pages 430 presented to the user may contain notices of plant sales.

According to this embodiment, a user may access a merchant's web site using known techniques. The user may be provided with a variety of options relating to on-line shopping. For example, the user may begin a shopping list, check the status of an order, obtain payment information, and various other on-line shopping related options. The user may navigate through the web site and request various operations. For example, add merchandise to a "shopping cart," remove merchandise from a "shopping cart," purchase merchandise in a "shopping cart," etc. The PFM 100 guides the user through the on-line shopping process by dynamically altering the web pages 430 until the user signs off the PFM 100. The web pages 430 are dynamically altered by the dynamic page generator 158 in response to information provided by the user. The PFM 100 also enables users to select various

options regarding on-line shopping. For example, a user may select to pay by credit card, check, money order, or other manner, opt to receive the merchandise by overnight carrier, pick-up, regular mail, etc. Various other options may also be available to a user as known by one of ordinary skill in the art.

5           Fig. 12 illustrates a method of on-line shopping in accordance with one embodiment of the invention. Presentation operation 500 presents a user with a plurality of options using, for example, a menu. The user may begin a shopping list or obtain the status of an order, for example. After selection of a menu option, input operation 502 receives the input from the user. Process operation 504 processes the  
10 information and query operation 506 determines whether the user has completed the transaction. This may be performed by posing a question to the user. If query operation 506 determines that the user has not completed the transaction (e.g., the user selects "No" to the question using a conventional computer mouse, touch-tone keypad, etc.), the system may return to presentation operation 500. Otherwise,  
15 purchase operation 508 processes and fills the transaction.

          An example of a life event may be useful in understanding the invention as it relates to FIG. 8. For example, a user may be relocating from Atlanta to Denver. The user may desire to set up various accounts so that the accounts are active upon arriving in Denver. To accomplish this, the user will preferably sign on  
20 to the PFM 100 in accordance with operations 300 - 310. A user interface device connected to the PFM 100 through network connection 150 may present an application comprising a series of questions to the user dynamically generated by the dynamic interview generator 158. In this analysis, the knowledge base analytic engine 187 determines the user's needs. The user's needs may include a home  
25 mortgage, a home equity line of credit, to transfer checking, savings, and individual retirement accounts, and apply for a local bank credit and debit card. The user may also desire to schedule the following utilities services: telephone, cable TV, garbage, sewerage, gas, and electricity, and apply for a health club membership at a particular health club.

30           As the user selects the products/services desired, additional interactive displays 430 may be used to obtain information regarding rates, terms, and cost of each product or service. As information is entered into the PFM 100, it is stored as financial profile information in the knowledge base 162. Using the information, an algorithm may be used to generate data input screens (such as 430)  
35 customized for each user that may be used to obtain all information required to complete the application. Such input screens 430 are generated by the application generator 172 and communicated through the application interface 168. The data input screens 430 may be generated dynamically as the user proceeds through the

screens 430. Some information may be used in various applications (e.g., name, date of birth, social security number) and, therefore, the algorithm may only request information not already provided. All of the information obtained may be stored in knowledge base 162.

5           The information input by the user may be stored in tables defined by product/service providers, such as 220, 222, 224, and 226. After the PFM 100 has obtained all of the information necessary to process the application, the system may prompt the user for authorization through the application interface 168 to utilize the input information and any ancillary information (e.g., credit reports, title reports,  
10   fund transfers). The information may then be compiled in a predefined format and forwarded to the product/service providers, such as 220, 222, 224, and 226, through the external transaction integrator 185.

          In addition to applying for products and services over the Internet, the user may also use a pre-approved local loan broker through the PFM 100. The local  
15   loan broker may personally obtain all of the information needed to process a user's application(s). For example, the local loan broker may obtain a loan application data file from the knowledge base 162 and additional data elements may be obtained from any respective supplier's data processing systems. The user interface devices are customized for that particular local loan broker and the broker may be provided  
20   with updates through the network connection 150 regarding various products and services. The updates are preferably displayed by an alert monitor 326 provided on the local loan broker's customized display (such as 320).

          In another embodiment, if the user is unable to complete an application with the local loan broker, the local loan broker may provide the user  
25   with a storage medium (e.g., CD-ROM, floppy diskette) having a "pointer" to the user's application. The user may then use the storage medium with a compatible device (e.g., a personal computer) having an interactive user interface device to access the user's application through the PFM 100. In this manner, the user, through the application interface 168, may be presented with a display similar to the  
30   interactive display presented to the local loan broker and may be able to receive products and services updates.

          In a similar preferred embodiment, after receiving a product or service, the user is provided with a credit home monitor, such as alert monitor 326. The credit monitor 326 uses the information stored in the knowledge base 162 to  
35   provide the user with a worksheet identifying the user's stored liabilities. For example, the worksheet preferably includes loan amounts, payment amounts, terms, and interest rates. The worksheet may also include the user's assets.

The credit monitor 326 preferably requests the user to select one or more options (e.g., using a pull-down menu, radio buttons, voice response) which features the products/services that the user desires to have monitored. Alternatively, the user may select to have all product features monitored. Additional options may also be presented depending on the option selected. For example, if the user selects mortgage interest rates, the credit monitor may request that the user input an interest rate threshold.

The user may also specify the intervals at which the monitoring is performed as well as other search criteria. Upon selecting the search criteria, the user may submit the request to the PFM 100. A search of the knowledge base 162 is performed for products or services matching the user's criteria. If a match is found, the product or service application process may be initiated instantly or at a later time upon user approval. The product/service application process is preferably a workflow process operated by the workflow manager 182. After an application process is initiated, the user, product or service provider, such as 220, 222, 224, and 226, and a mortgage broker are preferably notified by the personal communication interface 186 and the external transaction integrator 185 that pre-approval has been granted.

In addition to the credit monitor, the system may provide the user with access to local product and service providers, such as 220, 222, 224, and 226. Access may be performed using on-line directories. The user may use the system to order products or services from the local providers. Order forms, which may be customized to particular product or service providers, may be provided by the system. The order forms may be stored in the knowledge base 162 and used by analytic functions 228 in the knowledge base analytic engine 187 to identify potential users interested in new product or other offers by product and service providers.

The various embodiments described above are provided by way of illustration only and should not be construed to limit the invention. Those skilled in the art will readily recognize various modifications and changes that may be made to the present invention without following the example embodiments and applications illustrated and described herein, and without departing from the true spirit and scope of the present invention, which is set forth in the following claims.



## WHAT IS CLAIMED IS:

1. In a computer network having a server computer communicating with a user at a user interface device, a method in the server computer for providing personalized financial advice through the network to the user interface device, the method comprising:
  - 5 sending a first interactive display to the user interface device requesting user information from the user, receiving the user information and storing the user information as financial profile information of the user;
  - 10 analytically generating a customized interactive display derived from the financial profile information, the customized interactive display requesting additional user information to collect further financial profile information for the user;
  - 15 dynamically conducting a user interview by sending the customized interactive display, storing user interview responses to add to the financial profile information of the user;
  - repeating the generating step and the conducting step until the user interview is completed; and
  - 20 dynamically creating and sending to the user interface device the personalized financial advice based upon the financial profile information of the user.
2. The method according to claim 1; wherein the personalized financial advice relates to attaining a particular financial objective of the user.
- 25 3. The method according to claim 1 wherein the personalized financial advice is a list a financial products or services.
4. The method according to claim 1 wherein said act of creating and sending further comprises:
  - 30 comparing the financial profile information of the user to financial conditions and recommending financial products and services when the financial conditions are met.
5. The method according to claim 1, wherein the method for providing personalized financial advice further comprises:
  - 35 storing the financial profile information in a knowledge base database, such that the user interview is conducted and the personal financial advice is created based upon previously stored and currently inputted financial profile information.

6. The method according to claim 1, wherein the act of sending further comprises:

5 requesting the user to select a life event category communicated through the first interactive display.

7. The method according to claim 6, wherein the dynamically conducting step comprises:

10 requesting the user to respond with information on a specific life event;

updating the financial profile information in the database to reflect the specific life event identified by the user;

analytically determining whether the financial profile information is sufficient to enable the system to provide the user with the user interview;

15 dynamically orchestrating the user interview based upon a determination derived from the determining step, wherein the user interview is conducted through at least one customized interactive display designed in the generating act.

8. The method according to claim 5, wherein the act of storing comprises:

20 accepting external data from an external source, wherein the external data is related to the particular financial advice sought by the user, the particular financial product/service being specifically selected by taking into account the financial profile information currently stored;

updating the financial profile information in the database to reflect the external data selected in the act of accepting.

25

9. The method according to claim 8, wherein the method for providing personalized financial advice further comprises:

30 suggesting a particular financial product/service offered by a specified provider of a financial product/service sought by the user, wherein the particular financial product/service is provided to the system from the external source;

assisting the user in completing an application for the particular financial product/service, wherein the application is completed by a plurality of application responses from the user;

transmitting the application to the specified provider.

35

10. The method according to claim 9, wherein the method for providing personalized financial advice further comprises:

receiving a notice from the specified provider of whether the provider has  
accepted or declined the application;  
transmitting the notice to the user.

5           11. The method according to claim 10, wherein the transmitting step  
further comprises:

              suggesting an alternative provider offering an alternative financial  
product/service, wherein if the user requests to apply for the alternative  
product/service, the system assists the user in completing an alternative application  
10       from the alternative provider and transmits the alternative application to the  
alternative provider.

              12. The method according to claim 11, wherein the method for providing  
customized financial advice further comprises:

15           updating the database with target market data representing whether the user  
applied for the alternative financial product/service.

              13. The method of claim 9, wherein the method for providing personalized  
financial advice further comprises:

20           updating the user interface device with status of any previous requests by the  
user for advice pertaining to a particular financial product/service.

              14. The method of claim 1, wherein the method for providing personalized  
financial advice further comprises:

25           communicating with the user's client station through the Internet, wherein  
the first interactive display and the customized interactive display are a plurality of  
Internet web pages.

              15. The method of claim 1, wherein the method for providing personalized  
30       financial advice further comprises:

              communicating with the user's client station as a wireless device, the  
wireless device serving as a user interface displaying the interactive display.

              16. The method of claim 1, wherein the method for providing personalized  
35       financial advice further comprises:

              communicating with the user's client station through a telephone network,  
the user's telephone providing a user interface communicating a representation of  
the first interactive display and the customized interactive display.

17. Apparatus for personal financial counseling based on dynamic interviews with a user by a computing system, said apparatus comprising:

a query module determining whether the user has requested to apply for a financial service/product or requested a financial counseling session; and

5 an application interview module in response to a request to apply for a first financial service/product selecting a financial product for the user based upon user data previously collected from the user and responses by the user to interview questions based on the product and the user data; and

a counseling interview module in response to a request for a counseling  
10 session dynamically interviewing the user with questions based upon user data previously collected from the user and current responses by the user to interview questions based upon the user data and services/products of possible interest to the user and recommending financial services/products for the user's consideration based upon user data previously collected from the user and current responses by the  
15 user to the interview questions whereby the user is counseled regarding recommended financial services and products.

18. The apparatus of claim 17 wherein the user data includes personal financial objectives and a life event and said counseling interview module  
20 comprises:

an event detail module requesting life event details from the user regarding the life event experienced by the user; and

a recommendation module generating a personalized recommendation of a service/product for the user based upon the life event details, the service product  
25 details and the user's personal objectives.

19. The apparatus of claim 18 wherein said counseling interview module further comprises:

an alternatives module generating and displaying alternative  
30 services/products that are possible choices for the user in addition to the personalized recommendation.

20. The apparatus of claim 17 wherein said application interview module further comprises:

35 a previous application test module detects whether the user has previously applied for the first financial product; and

an update module responsive to the previous application test module updating the user as to the status of application for the first financial product and suggesting alternative services/products to the user.

5           21. The apparatus of claim 18 wherein said application interview module further comprises:

          a preprocess module retrieving an application template and pre-populating fields of the application template based on prior responses from the user in one or more earlier interviews; and

10           an application display module sending the application template to the user;  
          a workflow module selecting the appropriate service/product for the user based on user responses in a user application;

          a transaction integrator submits the user application and the appropriate service/product to a service/product provider, receives acceptance or rejection of the  
15           user application by the service/product provider and notifies the user.

          22. A financial mentoring system on a computer network, the financial mentoring system dynamically interacting with a user through a user interface device, the system comprising:

20           a dynamic interview generator generating dynamic interactive displays for the user and receiving responses from the user;

          a knowledge base storing a plurality of financial information records including responses from the user; and,

          a knowledge base analytic engine operatively connected to the knowledge  
25           base and working with the dynamic interview generator to use financial information records stored in the knowledge base to customize a next dynamic interactive display to the user based upon the financial information records, whereby the interview is dynamically generated by the dynamic interview generator in response to information provided by the user through responses to a previous dynamic  
30           interactive display.

          23. A financial mentoring system on a computer network, the financial mentoring system dynamically interacting with a user through a user interface device, the system comprising:

35           a registration interface operatively connected to the user client station and authenticating the user based on user responses to registration information displays;

          a dynamic interview generator providing dynamic responsive interaction between the user and the system, wherein the interaction is conducted through an

interview interface operatively connected between the dynamic interview generator and the user client station;

a life event trigger interface operatively connected to the user client station, the life event trigger interface providing the system with a life event occurrence

5 entered by the user at the user client station;

a knowledge base storing a plurality of financial information records communicated to and generated by the system, the information records are used by the system in mentoring the user;

10 a knowledge base analytic engine using the information records stored in the knowledge base to personalize an mentoring session and comparing financial records of the user with financial conditions of financial services; and

an online processor operatively connected to the knowledge base analytic engine and initiated by the knowledge base analytic engine when financial conditions of financial services are met by the user according to the user's financial records to initiate a dynamic interview of the user by the dynamic interview generator to derive sufficient information from the user and to assist the user through an application process until completed by submittal of an application for a particular financial product offered by a provider of a particular financial service.

20 24. A computer program product readable by a computing system and encoding a computer program of instructions for executing a computer process for providing personalized financial advice to a user interface device, the computer process comprising:

25 sending a first interactive display to the user interactive device requesting user information from the user, receiving the user information and storing the user information as financial profile information of the user;

analytically generating a customized interactive display derived from the financial profile information, the customized interactive display requesting additional user information to collect further financial profile information for the user;

30 dynamically conducting a user interview by sending the customized interactive display, storing user interview responses to add to the financial profile information of the user;

35 repeating the generating step and the conducting step until the user interview is completed; and

dynamically creating and sending to the user interface device the personalized financial advice based upon the financial profile information of the user.

25. The computer program product of claim 24 wherein said act of creating and sending further comprises:

comparing the personal financial profile of the user to financial conditions and recommending financial products and services when the financial conditions are met.

26. The computer program product claim 24, wherein the computer process further comprises:

storing the financial profile information in a knowledge base database, such that the user interview is conducted and the personal financial advice is created based upon previously stored and currently inputted financial profile information.

27. The computer program product of claim 24, wherein the act of sending further comprises:

requesting the user to select a life event category communicated through the interactive display.

28. The computer program product of claim 27, wherein the act of dynamically conducting comprises:

requesting the user to respond with information on a specific life event; updating the financial profile information in the database to reflect the specific life event identified by the user;

analytically determining whether the financial profile information is sufficient to enable the system to provide the user with the user interview; dynamically orchestrating the user interview based upon a determination derived from the determining step, wherein the user interview is conducted through at least one customized interactive display designed in the generating act.

29. The computer program product of claim 26, wherein the act of storing further comprises:

accepting external data from an external source, wherein the external data is related to the particular financial advice sought by the user, the particular financial product/service being specifically selected by taking into account the financial profile information currently stored;

updating the financial profile information in the database to reflect the external data selected in the act of accepting.

30. The computer program product of claim 26, wherein the computer process further comprises:

suggesting a particular financial product/service offered by a specified provider of a financial product/service sought by the user, wherein the particular financial product/service is provided to the system from the external source;

assisting the user in completing an application for the particular financial product/service, wherein the application is completed by a plurality of application responses from the user;

transmitting the application to the specified provider.

31. The computer program product of claim 30, wherein the computer process further comprises:

receiving a notice from the specified provider of whether the provider has accepted or declined the application;

transmitting the notice to the user.

32. The computer program product of claim 30, wherein the computer process further comprises:

updating the user interface device with status of any previous requests by the user for advice pertaining to a particular financial product/service.



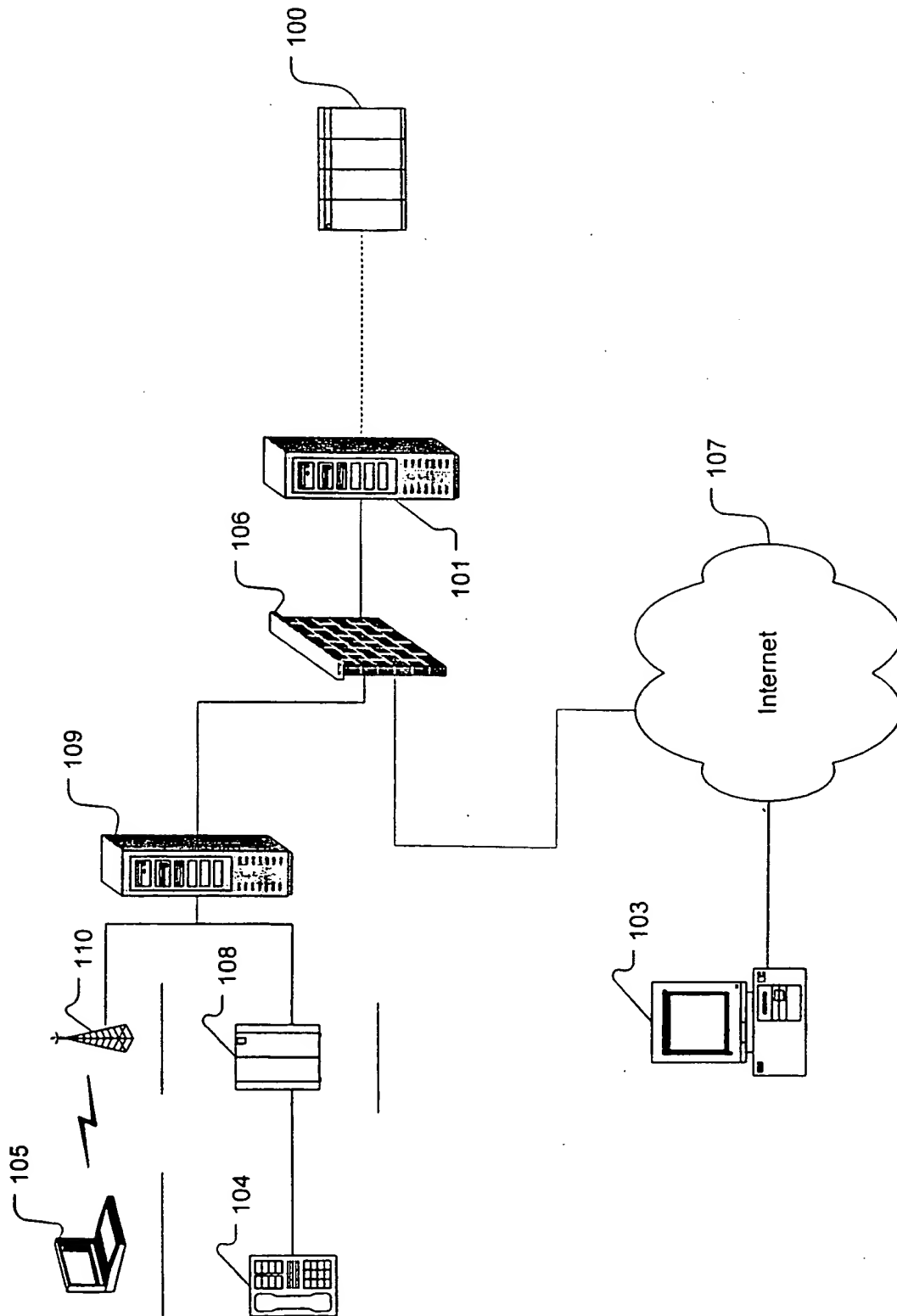
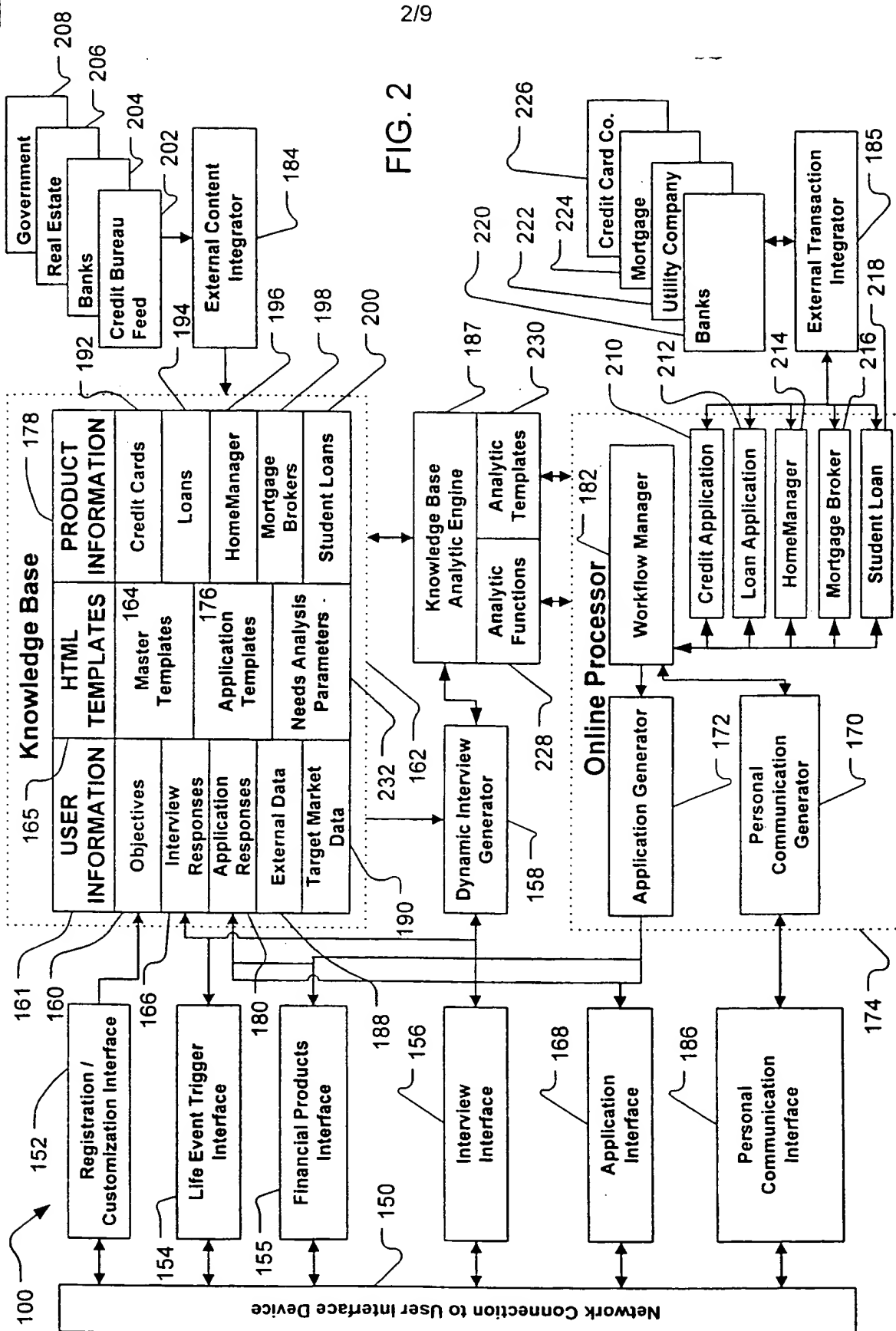


Fig. 1

2/9



3/9

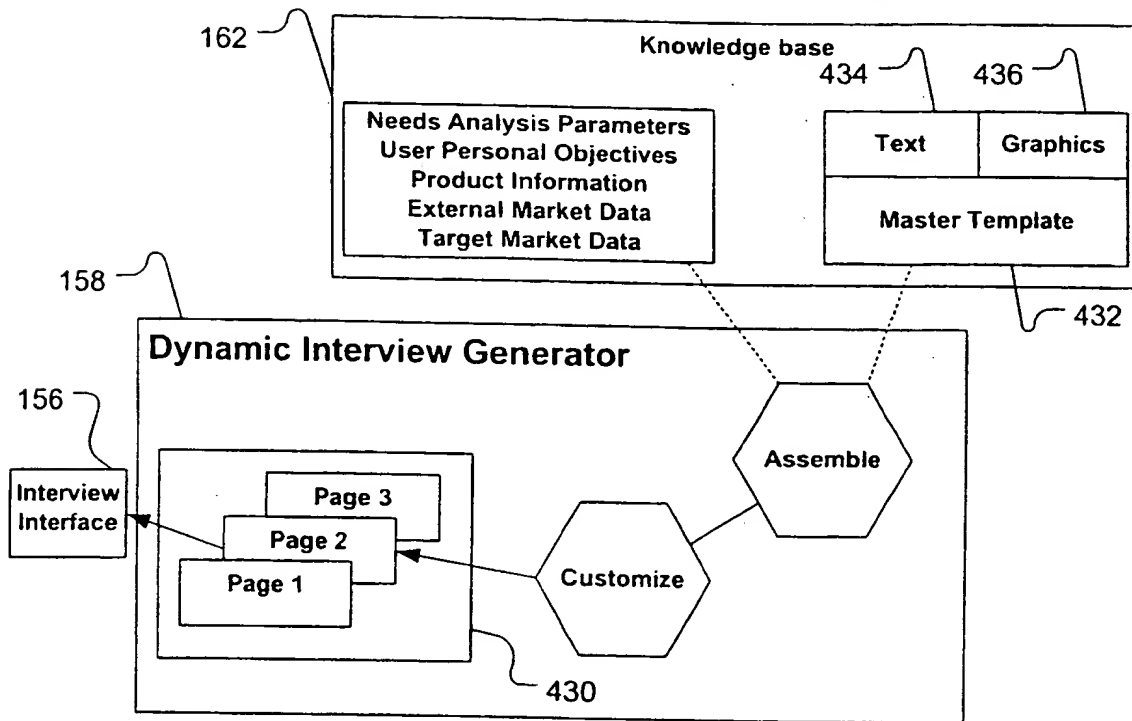


FIG. 3

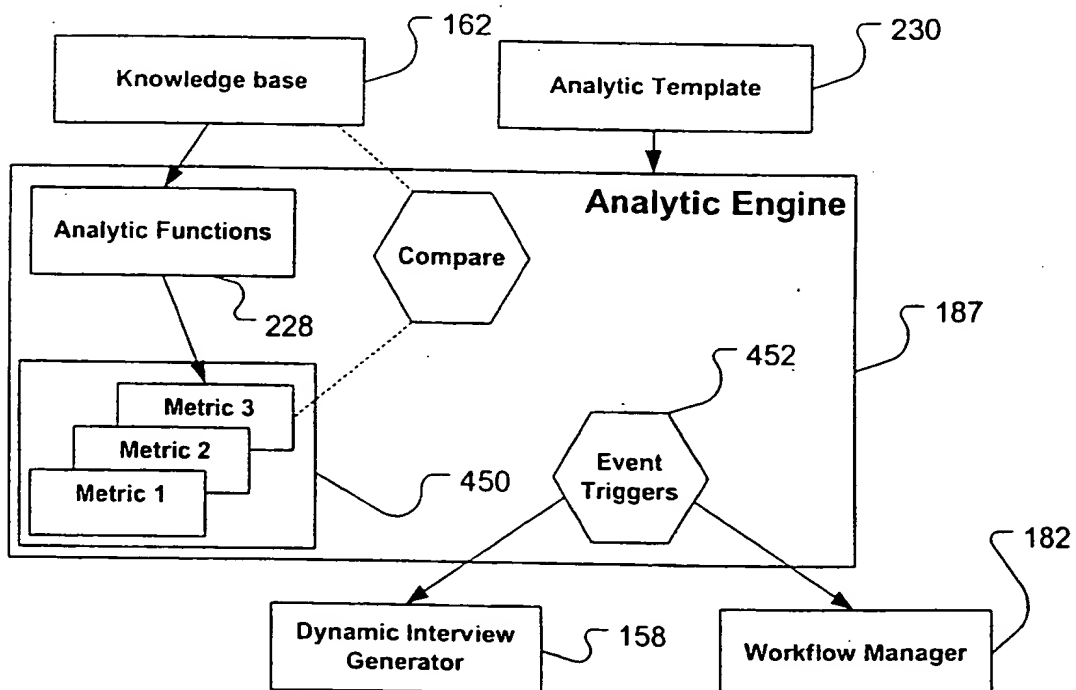


FIG. 4

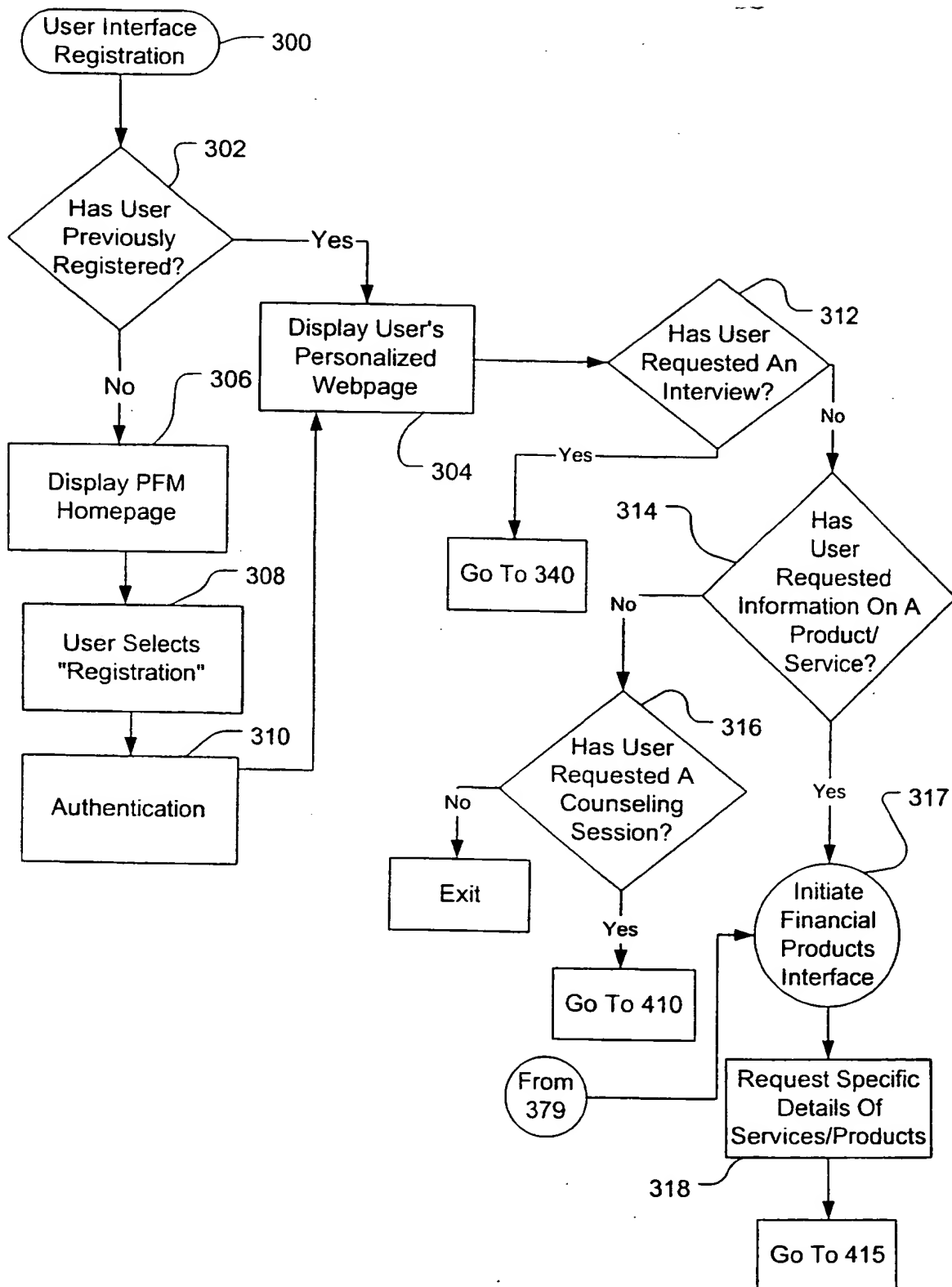


FIG. 5

5/9

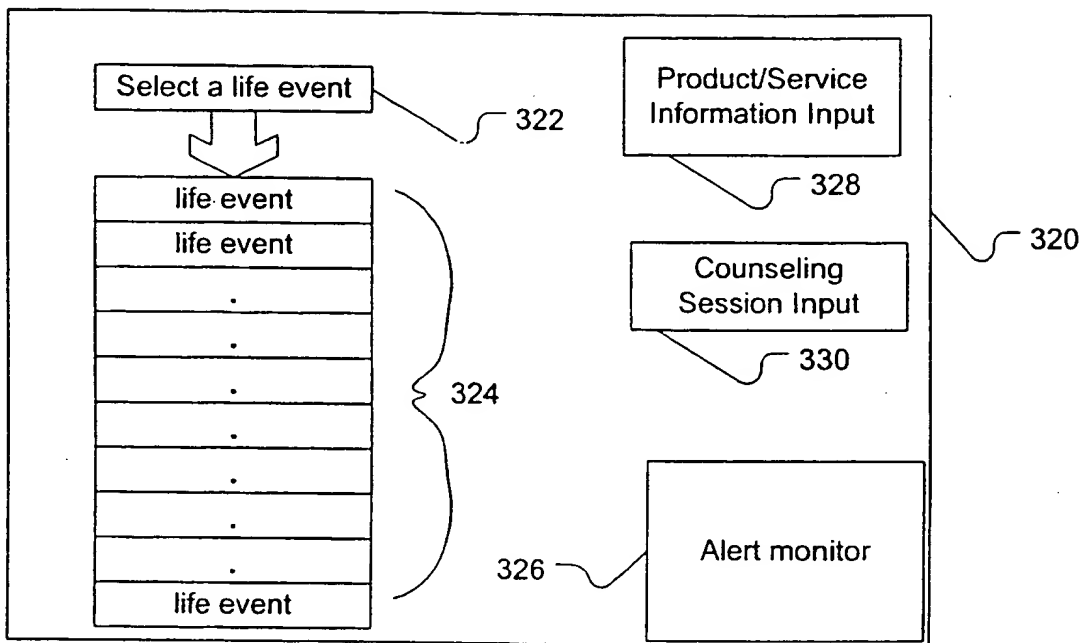


FIG. 6

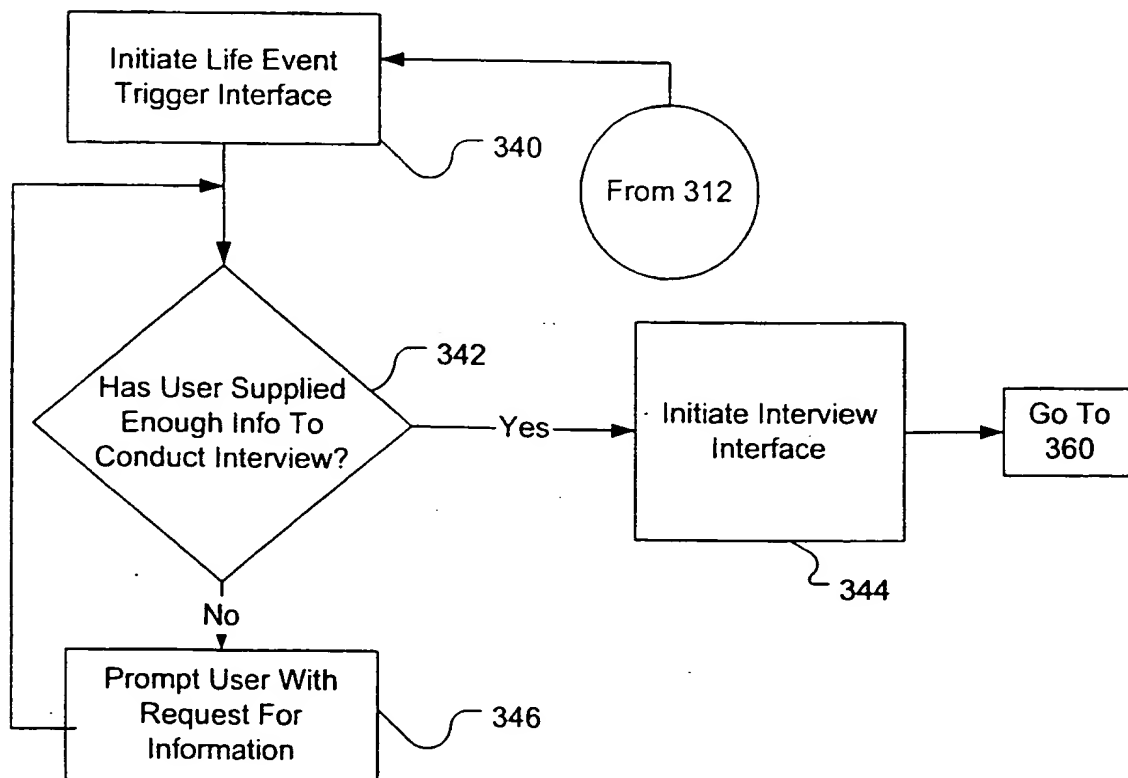


FIG. 7

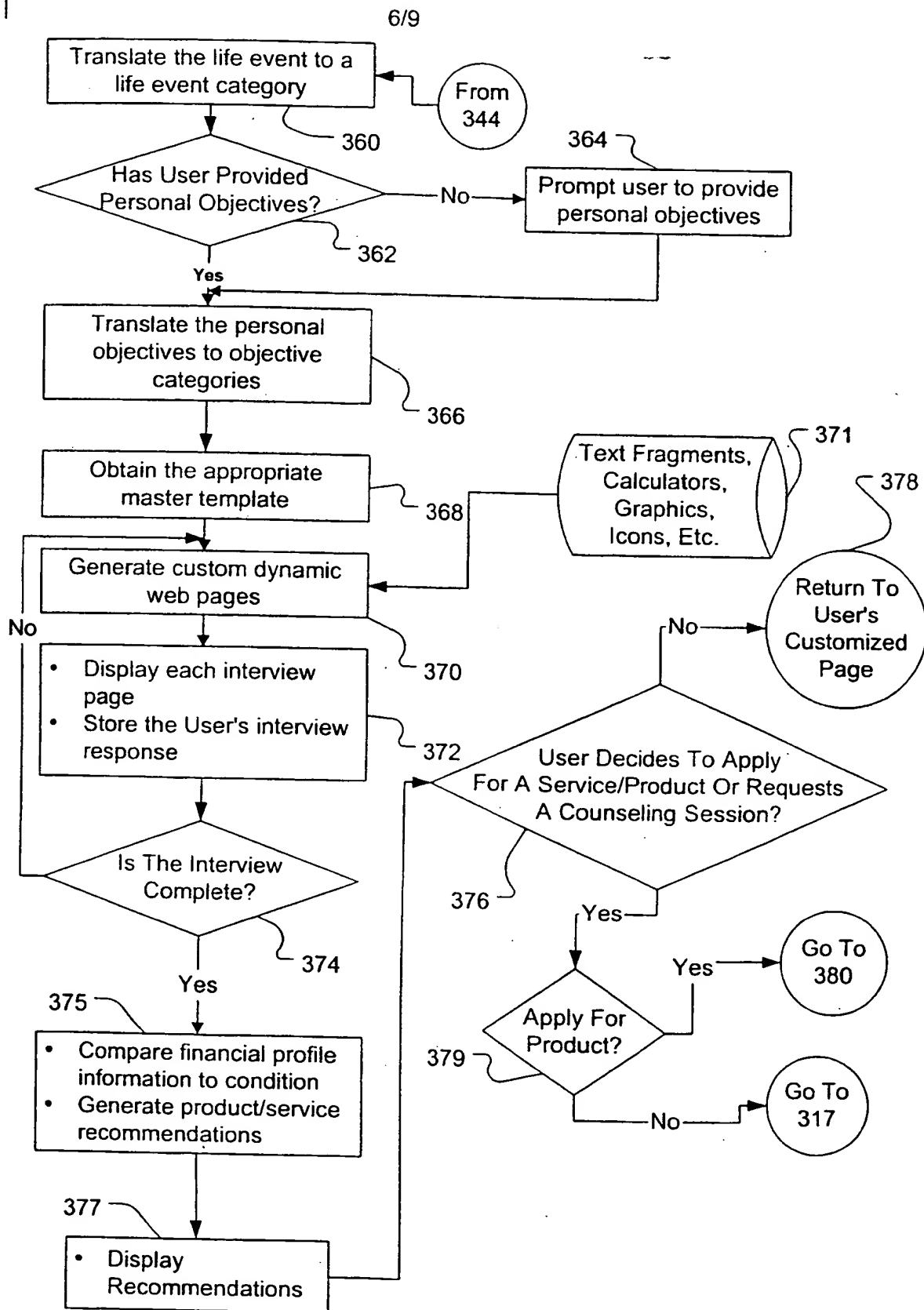


FIG. 8

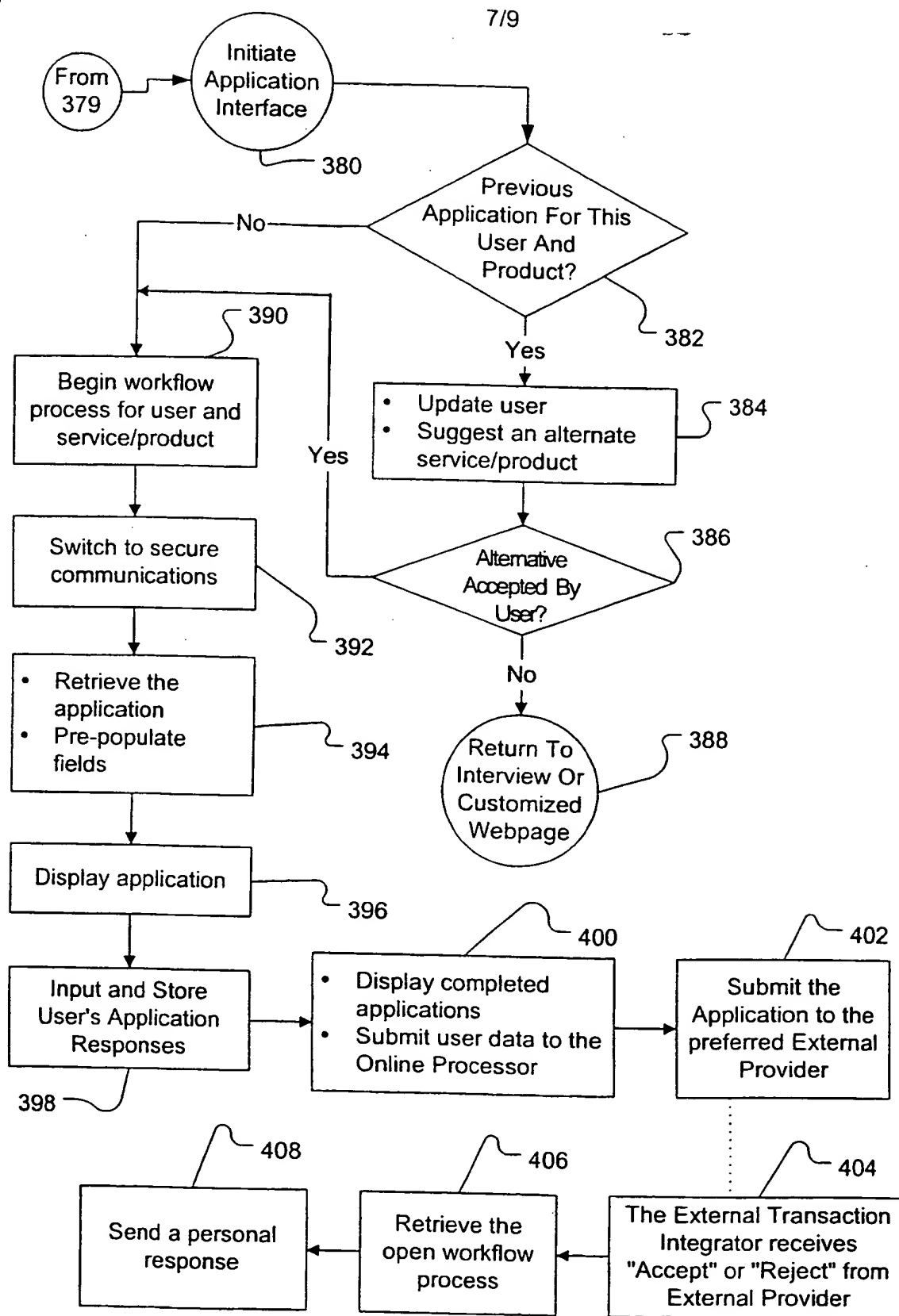


FIG. 9

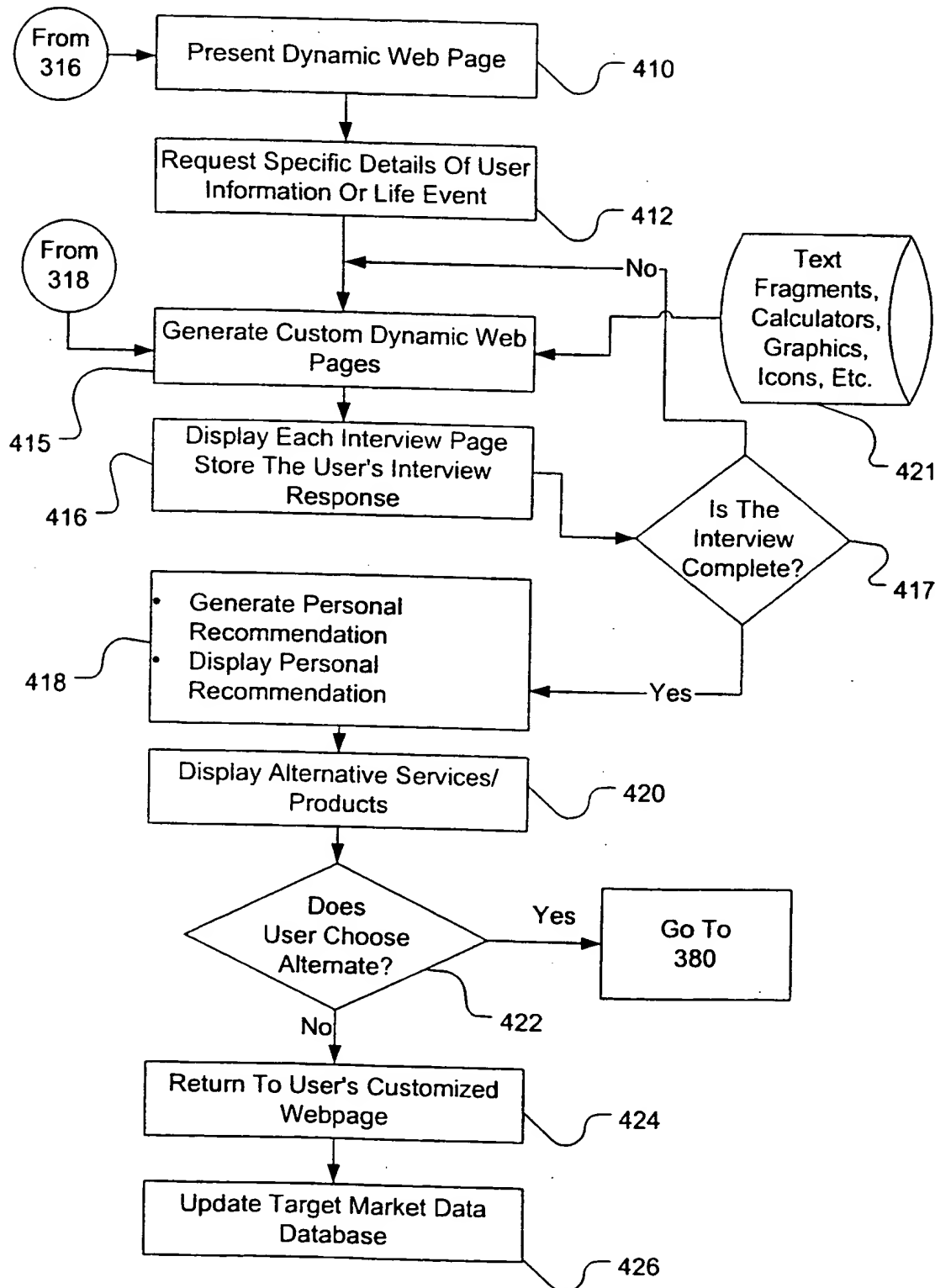


FIG. 10

SUBSTITUTE SHEET (RULE 26)



9/9

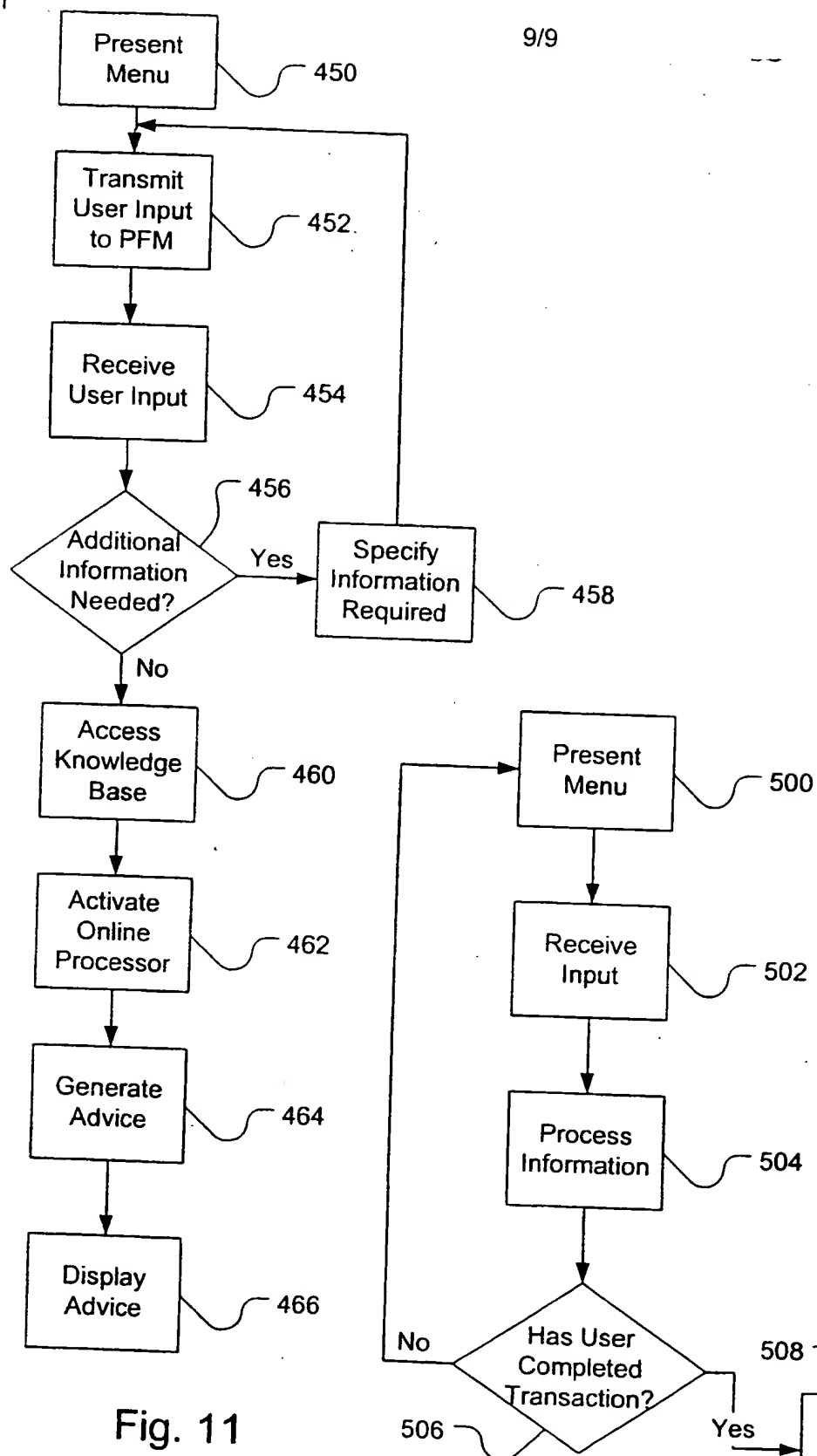


Fig. 11

Fig. 12

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(57) Abstract:

WO 01/18728 A2

# PATENT COOPERATION TREATY

## PCT

### DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT

(PCT Article 17(2)(a), Rules 13ter.1(c) and Rule 39)


Applicant's or agent's file reference <b>40113.3WOU1</b>	IMPORTANT DECLARATION	Date of mailing(day/month/year) <b>25/06/2001</b>
International application No. <b>PCT/US 00/ 24749</b>	International filing date(day/month/year) <b>11/09/2000</b>	(Earliest) Priority date(day/month/year) <b>10/09/1999</b>
International Patent Classification (IPC) or both national classification and IPC <b>G06F17/60</b>		
Applicant <b>GETAPPROVED.COM, LLC</b>		

This International Searching Authority hereby declares, according to Article 17(2)(a), that **no international search report will be established** on the international application for the reasons indicated below

1. ☒ The subject matter of the international application relates to:
  - a. ☐ scientific theories.
  - b. ☐ mathematical theories
  - c. ☐ plant varieties.
  - d. ☐ animal varieties.
  - e. ☐ essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.
  - f. ☒ schemes, rules or methods of doing business.
  - g. ☐ schemes, rules or methods of performing purely mental acts.
  - h. ☐ schemes, rules or methods of playing games.
  - i. ☐ methods for treatment of the human body by surgery or therapy.
  - j. ☐ methods for treatment of the animal body by surgery or therapy.
  - k. ☐ diagnostic methods practised on the human or animal body.
  - l. ☐ mere presentations of information.
  - m. ☐ computer programs for which this International Searching Authority is not equipped to search prior art.
2. ☐ The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:
 

☐ the description
☐ the claims
☐ the drawings
3. ☐ The failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions prevents a meaningful search from being carried out:
 

☐ the written form has not been furnished or does not comply with the standard.
 ☐ the computer readable form has not been furnished or does not comply with the standard.
4. Further comments:

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer <b>Mar'a Rodr'guez Nõvoa</b>
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## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 203

The subject-matter claimed in claims 1-16 falls under the provisions of Article 17(2)(a)(i) and Rule 39.1(iii), PCT, such subject-matter relating to a method of doing business.

Claims 17-32 relate to a conventional apparatus, system and computer program product for performing the business method of claims 1-16.

Although these claims do not literally belong to the method category, they essentially claim protection for the same commercial effect as the method claims. The International Searching Authority considers that searching this subject-matter would serve no useful purpose. It is not at present apparent how the subject-matter of the present claims may be considered defensible in any subsequent examination phase in front of the EPO as International Preliminary Examining Authority with regard to the provisions of Article 33(1) PCT (novelty, inventive step); see also Guidelines B-VII, 1-6).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.